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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------------------|-----------------------------|
| 10/582,513 | 06/09/2006 | Takanori Yamagishi | 292380US0PCT | 2912 |
| 22850 7590 08/31/2010 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314 | | | EXAMINER BOFF, ANCA | |
| | | | ART UNIT 1795 | PAPER NUMBER |
| | | | NOTIFICATION DATE 08/31/2010 | DELIVERY MODE ELECTRONIC |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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**Advisory Action
Before the Filing of an Appeal Brief**

| | |
|--------------------------------------|---|
| Application No. 10/582,513 | Applicant(s) YAMAGISHI ET AL. |
| Examiner ANCA EOOF | Art Unit 1795 |

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 17 August 2010 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☒ The Notice of Appeal was filed on 17 August 2010. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
(a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
(b) ☐ They raise the issue of new matter (see NOTE below);
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
The status of the claim(s) is (or will be) as follows:
Claim(s) allowed: _____.
Claim(s) objected to: _____.
Claim(s) rejected: 17-25.
Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:
See Continuation Sheet.
12. ☒ Note the attached *Information Disclosure Statement*(s). (PTO/SB/08) Paper No(s). 08/17/2010
13. ☐ Other: _____.

/Cynthia H Kelly/
Supervisory Patent Examiner, Art Unit 1795

/Anca Eoff/
Examiner, Art Unit 1795

Continuation of 11, does NOT place the application in condition for allowance because:

On page 3 of the Remarks, the applicant argues the Sounik et al. do not specifically teach the steps of the solvent exchange process. This deficiency was noted on page 4 in the previous Office Action and Sehm et al. was cited to show the specific steps of the process.

The applicant further argues that Sounik et al. teach a purification process which does not include a solvent swap step (Steps 2 and 4 in par.0106-0108 and par.0114-0117). The applicant further argues that the Examples 1 and 3 of Sounik et al. do not show a solvent swap step.

The examiner would like to point out that Sounik clearly teach a solvent exchange step in the process of preparing polymers of enhanced purity (see the abstract). The polymers are dissolved in an alcohol solvent and, in the solvent swap step, the alcohol solvent is removed and replaced by a photoresist solvent (par.0021).

Sounik also teach that a co-solvent such as methyl ethyl ketone may be used in combination with an alcohol solvent (par.0099-0100).

The alcoholic solvent mixed with methyl ethyl ketone is equivalent to the solvent (b) of claim 17.

In the solvent swap step, the polymer is solvent exchanges with an organic solvent which is a photoresist compatible solvent and the alcoholic solvent is removed by distillation (Step 6 in par.0121). The solvent may be PGMEA (par.0121), equivalent to the solvent (a) of the instant application.

The solvent swap step is clearly shown by Sounik et al. as being comprised in the process of obtaining polymers of enhanced purity.

On pages 3-4 of the Remarks, the applicant argues that the resist polymer of the present invention is for ArF excimer laser while the resist polymer of Sounik et al. is for KrF excimer laser. The examiner would like to point out that the pending claims 17-25 do not recite the limitation of a resist polymer for ArF excimer laser. The claims only recite a resist polymer having an acid-decomposable repeating unit and a polar-group-containing repeating unit (see claim 17). A polar group may be a phenolic hydroxyl group (see claim 19). The polymers of Sounik et al. have the same repeating units (see par.0023-0024)- the unit of formula (I) is a repeating unit comprising a phenolic hydroxyl group and the unit (II) wherein R4 is t-butyl, methyl ethyl adamantyl (par.0038) is an acid-decomposable unit.

On page 4 of the Remarks, the applicant argues that there is no suggestion in Sounik et al. to use a solvent swap in the actual purification process, which is taught in Steps 2 and 4.

The examiner agrees that Sounik et al. teaches steps 2 and 4 which are called specifically "purification". The steps 2 and 4 do not involve a solvent swap.

However, Sounik et al. teach a "process of preparing polymers of enhanced purity" and such process comprises a specific solvent swap step (abstract, and step (6) in par.0021 and par.0121).

The process of preparing polymers of enhanced purity of Sounik et al. is equivalent to the "process for producing a purified resist polymer solution" of claim 17 of the instant application. The step 6 of a solvent swap is clearly included in the process (abstract, par.0021, par.0121) so one of ordinary skill in the art would be motivated to use the solvent swap step in a process of preparing purified polymers.

Claim 17 has the transitional term "comprising", which is open-ended and allows for additional steps in the process. Therefore, the process of Sounik which comprises steps 1-5 and the step 6 of solvent swap meets the limitation for the process of producing a purified resist polymer solution of claim 17.